## AMENDMENTS TO THE CLAIMS

Please amend claim 1.

Please cancel claim 16 without prejudice or disclaimer.

Please add new claims 76 and 77.

The listing of claims below will replace all prior versions, and listings, of claims in this application.

Listing of Claims

1. (Currently Amended) A method of forming a hole or cavity or channel~~,~~ in a region of an electrically insulating substrate, comprising the steps:

a) providing an electrically insulating substrate,

b) applying, by means of a voltage supply, a voltage across a region of said electrically insulating substrate, said voltage being sufficient to give rise to a significant increase in electrical current through said region and to a dielectric breakdown (DEB) through said region,

c) applying energy to said substrate or said region only so as to increase the temperature of said region, said energy originating either from an energy or heat source or from components of said voltage applied in step b), said energy being applied so as to reduce the amplitude of voltage required in step b) to give rise to said current increase and/or to soften the material of said region,

wherein step b) is performed and, preferably, ended using an electronic feedback mechanism operating according to user-predefined parameters, said electronic feedback mechanism controlling the properties of said applied voltage and/or of said electrical current, wherein said electronic feedback mechanism comprises a current and/or voltage analysis circuit, alone or as part of a user-programmed device, said current and/or voltage analysis circuit controlling voltage supply output parameters, and/or controlling said energy or heat source, if present,

wherein step b) occurs by the placement of electrodes at or near said region by placing one electrode on one side of that substrate and by placing another electrode on another side of said substrate, and by application of said voltage across said electrodes.

2. (Previously Presented) The method according to claim 1, wherein said electronic feedback mechanism causes an end of step b) within a user-predefined period after onset of said dielectric breakdown.

3. (Previously Presented) The method according to claim 1, wherein said significant increase in electrical current is an increase in the number of charge carriers per unit time~~,~~ by a factor of 2.

4. (Previously Presented) The method according to claim 2, wherein said electronic feedback mechanism causes said end of step b) to occur - with or without a preset delay - at the time when said electrical current has reached a threshold value in the range of 0.01 to 10 mA, or at the time, when an increase in electrical current, (dI/dt), has reached a threshold value equal or larger than 0.01 A/s.

5. (Previously Presented) The method according to claim 1, wherein said electronic feedback mechanism is fast enough to be able to cause an end of step b) within a period in the range of from 1 ns to 100 ms after onset of said dielectric breakdown, or within the aforementioned period after said increase in electrical current has reached said threshold value.

6. (Previously Presented) The method according to claim 5, wherein said electronic feedback mechanism causes an end of step b) within a period in the range of from 100 ns to 10 s after onset of said dielectric breakdown or after said increase in electrical current has reached said threshold value.

7. (Previously Presented) The method according to claim 2, wherein said end of step b) occurs without any intervention by a user once step b) has been initiated.

8. (Previously Presented) The method according to claim 1, wherein said electronic feedback mechanism comprises a computer, said trigger circuit controlling voltage supply output parameters, and/or controlling said energy or heat source, if present.

9. (Previously Presented) The method according to claim 1, wherein steps b) and c) occur concomitantly.

10. (Previously Presented) The method according to claim 1, wherein step c) is performed under control of a user by use of said electronic feedback mechanism.

11. (Previously Presented) The method according to claim 10, wherein said control of a user involves definition or regulation of the amount and/or the duration of said energy applied to said region in step c).

12. (Previously Presented) The method according to claim 1, wherein said electronic feedback mechanism provides for a regulation of amplitude and/or duration of said voltage and/or said current.

13. (Previously Presented) The method according to claim 1, wherein said voltage is in the range of $10^2$ V to $10^6$ V.

14. (Previously Presented) The method according to claim 1, wherein step c) is initiated before step b).

15. (Previously Presented) The method according to claim 1, wherein step c) is continued after step b) has been ended.

16. (Canceled)

17. (Previously Presented) The method according to claim 1, wherein, at the beginning of step b), said voltage is increased in amplitude up to a value, at which an increase in electrical current through said region occurs and/or where a dielectric breakdown (DEB) through said substrate occurs and/or where an electric arc occurs.

18. (Previously Presented) The method according to claim 1, wherein said current flows along a current path through said substrate region and changes viscosity and/or stiffness and/or brittleness of said substrate along and near said current path.

19. (Previously Presented) The method according to claim 18, wherein said current softens and/or melts and/or evaporates said substrate along and near said current path, and/or wherein said current and/or said applied voltage cause the removal of substrate material along and near said current path, by evaporation, ejection, electrostatic attraction or a combination thereof.

20. (Canceled)

21. (Previously Presented) The method according to claim 1, wherein said applied voltage is purely DC.

22. (Previously Presented) The method according to claim 1, wherein said applied voltage is purely AC.

23. (Previously Presented) The method according to claim 1, wherein said applied voltage is a superposition of AC and DC voltages.

24. (Previously Presented) The method according to claim 22, wherein the frequency of said applied AC voltage is in the range of from $10^2$ to $10^{12}$ Hz.

25. (Previously Presented) The method according to claim 22, wherein said AC voltage is applied intermittently, in pulse trains of a duration -in the range of from 1 ms to 1000 ms, with a pause in between of a duration of at least 1 ms.

26. (Canceled)

27. (Previously Presented) The method according to claim 22, wherein said applied AC voltage has parameters which are sufficient to establish an electric arc between a surface of said substrate and said electrodes.

28. (Original) The method according to claim 27, wherein said electric arc is used for performing step c).

29. (Previously Presented) The method according to claim 22, wherein said applied AC voltage leads to dielectric losses in said region of said substrate, said dielectric losses being sufficient to increase the temperature of said region.

30. (Previously Presented) The method according to claim 22, wherein the frequency of said applied AC voltage is increased to reduce deviations of the current path from a direct straight line between the electrodes.

31. (Previously Presented) The method according to claim 22, wherein the frequency of said applied AC voltage is increased to minimize the possible distance between neighboring structures.

32. (Previously Presented) The method according to claim 1, wherein, in step c), energy is applied to said region so as to decrease the voltage amplitude required to initiate dielectric breakdown across this region.

33. (Previously Presented) The method according to claim 1, wherein in step c), heat is applied to said region of said substrate using a heated electrode or a heating element placed near by the electrode.

34. (Original) The method according to claim 33, wherein said heated electrode is an electric heating filament and is also used to apply said voltage to said region in step b).

35. (Previously Presented) The method according to claim 1, wherein, in step c), heat is applied to said region of said substrate additionally or only by using an external heat source or by using a gas flame.

36. (Previously Presented) The method according to claim 1, wherein, in step c), heat is applied to said region of said substrate by applying an AC voltage to said region.

37. (Previously Presented) The method according to claim 36, wherein said AC voltage is applied to said region by electrodes placed on opposite sides of said substrate.

38. (Original) The method according to claims 37, wherein said electrodes placed on opposite, sides of said substrate are also used for performing step b).

39. (Previously Presented) The method according to claim 36, wherein said AC voltage is sufficient to cause dielectric losses in said region of said .substrate leading to an increase in temperature in said region.

40. (Previously Presented) The method according to claim 39, wherein said AC voltage is in the range of $10^3$ V - $10^6$ V and has a frequency in the range of from $10^2$ Hz to $10^{12}$ Hz.

41. (Previously Presented) The method according to claim 1, wherein said structure being formed is a hole having a diameter in the range of from 0.01 μm to 50 μm.

42. (Previously Presented) The method according to claim 1, wherein said structure being formed is a cavity having a diameter in the range of from 0.1 μm to 100 μm.

43. (Previously Presented) The method according to claim 1, wherein said voltage is applied by electrodes placed on opposite sides of said substrate, and said structure being formed is a channel-like structure obtained by a relative movement of said electrodes in relation to said substrate.

44. (Previously Presented) The method according to claim 1, wherein said structure has an aspect ratio greater than 1.

45. (Canceled)

46. (Previously Presented) The method according to claim 1, wherein said region where a structure is to be formed, has a thickness in the range of from $10^{-9}$ m to $10^{-2}$ m.

47. (Previously Presented) The method according to claim 1, wherein said substrate is provided in step a) within a material (solid, liquid or, gas) that reacts with a surface of said substrate during steps b) and/or c).

48. (Previously Presented) The method according to claim 1, wherein, after formation of said structure, a surface of said structure is smoothed by further application of heat through step c).

49. (Previously Presented) The method according to claim 1, wherein, after formation of said structure, its shape is subsequently altered by further application of heat through step c).

50. (Previously Presented) The method according to claim 48, wherein said further application of heat occurs by an electric arc formed between two electrodes.

51. (Previously Presented) The method according to claim 1, wherein said electrically insulating substrate is a substrate, wherein dielectric breakdown occurs using a small voltage, in the absence of additional heat or energy and wherein step c) is omitted altogether.

52-74. (Canceled)

75. (Previously Presented) The method according to claim 49, wherein said further application of heat occurs by an electric arc formed between two electrodes.

76. (New) The method according to claim 18, wherein step b) does not lead to a breakage of said substrate, and wherein said current, current increase and voltage parameters are limited by a user to values, said values being determined experimentally for each substrate material and/or substrate material class, at which values no breakage of said substrate is caused.

77. (New) The method according to claim 22, wherein said applied AC voltage is used for performing step c).